



6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

EPA-R02-OAR-2010-0482; [FRL-9762-2]

Approval and Promulgation of Air Quality Implementation Plans for PM_{2.5}; New Jersey;
Attainment Demonstration, Reasonably Available Control Measures; Base and Projection Year
Emission Inventories, and Motor Vehicle Emissions Budgets

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing action on New Jersey's State Implementation Plan (SIP) revision for attaining the 1997 fine particle (PM_{2.5}) national ambient air quality standards (NAAQS), which was submitted to EPA on April 1, 2009. EPA is proposing to fully approve elements of the New Jersey SIP for the New Jersey portion of two nonattainment areas in the State: the New York-N. New Jersey-Long Island, NY-NJ-CT, PM_{2.5} nonattainment area, and the Philadelphia- Wilmington, PA-NJ-DE, PM_{2.5} nonattainment area.

EPA is taking action on several elements of the SIP, including proposed approval of New Jersey's attainment demonstration and motor-vehicle emissions budgets used for transportation conformity purposes, as well as the Reasonably Available Control Technology and Reasonably Available Control Measures (RACT/RACM) analysis, and base-year and projection-year modeling emission inventories.

This action is being taken in accordance with the Clean Air Act and the Clean Air Fine Particle Implementation Rule issued by EPA.

DATES: Written comments must be received on or before **[Insert date 30 days after publication in the Federal Register]**.

ADDRESSES: Submit your comments, identified by Docket ID Number EPA-R02- OAR-2010-0482 by one of the following methods:

1. www.regulations.gov : Follow the on-line instructions for submitting comments.
2. E-mail: Werner.Raymond@epa.gov
3. Fax: 212:637-3901
4. Mail: Raymond Werner, Chief, Air Programs Branch, Environmental Protection Agency, Region 2 Office, 290 Broadway, 25th Floor, New York, New York 10007-1866.
5. Hand Delivery or Courier. Deliver your comments to: Raymond Werner, Chief, Air Programs Branch, Environmental Protection Agency, Region 2 Office, 290

Broadway, 25th Floor, New York, New York 10007-1866. Such deliveries are only accepted during the Regional Office's normal hours of operation. The Regional Office's official business hours is Monday through Friday, 8:30 a.m. to 4:30 p.m., excluding Federal holidays.

Instructions: Direct your comments to Docket ID No. EPA-R02-OAR-2010-0482. EPA's policy is that all comments received will be included in the public docket without change and may be made available online at www.regulations.gov, including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit through at www.regulations.gov, or e-mail, information that you consider to be CBI or otherwise protected. The at www.regulations.gov website is an "anonymous access" system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA without going through at www.regulations.gov, your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD-ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses. For additional information about EPA's public docket, visit the EPA Docket Center homepage at <http://www.epa.gov/epahome/dockets.htm>.

Docket: All documents in the electronic docket are listed in the www.regulations.gov index. Although listed in the index, some information is not publicly available, i.e., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically in at www.regulations.gov or in hard copy at the Environmental Protection Agency, Region 2 Office, Air Programs Branch, 290 Broadway, 25th Floor, New York, New York 10007-1866. EPA requests that if at all possible, you contact the contact listed in the **FOR FURTHER INFORMATION CONTACT** section to view the hard copy of the docket. You may view the hard copy of the docket Monday through Friday, 8:00 a.m. to 4:00 p.m., excluding legal holidays.

FOR FURTHER INFORMATION CONTACT: Raymond Forde (forde.raymond@epa.gov) concerning emission inventories and Kenneth Fradkin (fradkin.kenneth@epa.gov) concerning other portions of the SIP revision, Air Programs Branch, 290 Broadway, 25th Floor, New York, New York 10007-1866, (212) 637-4249.

SUPPLEMENTARY INFORMATION: Throughout this document whenever “we,” “us,” or “our” is used, we mean EPA.

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I. What Action is EPA Proposing?

The Environmental Protection Agency (EPA) is proposing to fully approve elements of New Jersey's SIP submission (PM_{2.5} attainment plan), which the State submitted to EPA on April 1, 2009, for attaining the 1997 PM_{2.5} National Ambient Air Quality Standards (NAAQS) for the New Jersey portion of the New York-N. New Jersey-Long Island, NY- NJ-CT, PM_{2.5} nonattainment area (Northern New Jersey PM_{2.5} nonattainment area), and the New Jersey portion of the Philadelphia-Wilmington, PA-NJ-DE, PM_{2.5} nonattainment area (Southern New Jersey PM_{2.5} nonattainment area).

This PM_{2.5} attainment plan includes New Jersey's attainment demonstration, motor- vehicle emissions budgets used for transportation conformity purposes, analysis of Reasonably Available Control Technology (RACT) and Reasonably Available Control Measures (RACM), base-year and projection-year modeling emission inventories, and contingency measures.

EPA is not making a determination at this time on whether the emission reductions from the contingency measures satisfy the requirements of section 172(c)(9) of the Clean Air Act (CAA). Because EPA has determined that the areas have attained by the required attainment date in

separate actions (75 FR 69589 and 77 FR 28782), no contingency measures for failure to attain by this date need to be implemented and further EPA action is unnecessary.

New Jersey provided technical supplements to the attainment plan on December 17, 2009 and June 29, 2010 that provided additional information regarding the emission inventories, control measures, and contingency measures in the State's attainment plan.

EPA has determined that elements of New Jersey's PM_{2.5} attainment plan meet the applicable requirements of the CAA, as described in the Clean Air Fine Particle Implementation Rule issued by EPA on April 25, 2007 (72 FR 20586). EPA is proposing approval of New Jersey's attainment demonstration, motor-vehicle emissions budgets used for transportation conformity purposes, as well as the RACT/RACM analysis and base-year and projection-year modeling emission inventories. EPA's analysis and findings are discussed in this proposed rulemaking. In addition, the technical support document (TSD) for this proposal is available on-line at www.regulations.gov, Docket No. EPA-R02-OAR-2010-0482. The TSD provides additional explanation of EPA's analysis supporting this proposal.

II. What is the Background for EPA's Proposed Action?

A. Designation History

On July 18, 1997 (62 FR 38652), EPA established the 1997 PM_{2.5} NAAQS, including an annual standard of 15.0 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) based on a 3-year average of annual mean PM_{2.5} concentrations and a 24-hour (or daily) standard of 65 $\mu\text{g}/\text{m}^3$ based on a 3-year average of the 98th percentile of 24-hour concentrations. EPA established the standards based on significant

evidence and numerous health studies demonstrating that serious health effects are associated with exposures to PM_{2.5}.

Following promulgation of a new or revised NAAQS, EPA is required by the CAA to designate areas throughout the United States as attaining or not attaining the NAAQS; this designation process is described in section 107(d)(1) of the CAA. On January 5, 2005, EPA promulgated initial air-quality designations for the 1997 PM_{2.5} NAAQS (70 FR 944), which became effective on April 5, 2005, based on air-quality monitoring data for calendar years 2001-2003.

The Northern and Southern New Jersey PM_{2.5} nonattainment areas, which are the subjects of this proposed rulemaking, are included in the list of areas not attaining the 1997 PM_{2.5} NAAQS. The Northern New Jersey PM_{2.5} nonattainment area consists of the following counties in the State of New Jersey: Bergen, Essex, Hudson, Mercer, Middlesex, Monmouth, Morris, Passaic, Somerset, and Union Counties. The Southern New Jersey PM_{2.5} nonattainment area consists of the following counties: Burlington, Camden, and Gloucester Counties in the State of New Jersey.

Additional information concerning the designation history can be found in the TSD.

B. Clean Air Fine Particle Implementation Rule

On April 25, 2007, EPA issued the Clean Air Fine Particle Implementation Rule for the 1997 PM_{2.5} NAAQS (72 FR 20586). The Clean Air Fine Particle Implementation Rule (PM_{2.5} Implementation Rule) describes the CAA framework and requirements for developing state

implementation plans for areas designated nonattainment for the 1997 PM_{2.5} NAAQS. An attainment plan must include a demonstration that a nonattainment area will meet the applicable NAAQS within the timeframe provided in the statute. This demonstration must include modeling (40 CFR 51.1007) that is performed in accordance with EPA's "Guidance on the use of Models and Other Analyses for Demonstrating Attainment of Air Quality Goals for Ozone, PM_{2.5}, and Regional Haze" (EPA-454/B-07-002, April 2007). It must also include supporting technical analyses and descriptions of all relevant adopted federal, state, and local regulations and control measures that have been adopted in order to provide attainment by the proposed attainment date.

For the 1997 PM_{2.5} NAAQS, an attainment plan must show that a nonattainment area will attain the 1997 PM_{2.5} NAAQS as expeditiously as practicable, but within five years of designation (i.e. attainment date of April 2010 based on air quality data for 2007–2009). If the area is not expected to meet the NAAQS by April 2010, a state may request to extend the attainment date by one to five years based upon the severity of the nonattainment problem or the feasibility of implementing control measures (CAA Section 172(a)(2)) in the specific area.

For each nonattainment area, the state must demonstrate that it has adopted all RACM, including all RACT for the appropriate emission sources needed to provide for attainment of the PM_{2.5} standards in the area "as expeditiously as practicable." The PM_{2.5} Implementation Rule provided guidance for making these RACT/RACM determinations (see Section IV.C below). Any measures that are necessary to meet these requirements that are not already federally promulgated or in an EPA-approved part of the state's SIP must be submitted as part of a state's

attainment plan. Any state measures must meet the applicable statutory and regulatory requirements, and, in particular, must be federally enforceable.

The PM_{2.5} Implementation Rule also included guidance on other elements of a state's attainment plan, including, but not limited to, the pollutants that states must address in their submission, as well as emission inventories, contingency measures, and motor- vehicle emissions budgets used for transportation conformity purposes.

Additional information concerning the PM_{2.5} Implementation Rule can be found in the TSD.

C. Determinations of Attainment

EPA makes two different types of attainment determinations for nonattainment areas. The first, a Determination of Attainment by the attainment date, is a determination of whether the area attained the NAAQS as of the area's applicable attainment deadline, which for PM_{2.5}, is required by CAA section 179(c). The second is a Determination of Attainment for purposes of suspending a State's obligation to submit certain attainment-related planning SIP requirements (Clean Data Determination) (see 40 CFR 51.1004(c)). A Clean Data Determination and the suspension of requirements continue so long as the area continues to attain the NAAQS.

EPA finalized determinations of attainment in the November 15, 2010 Federal Register (75 FR 69589) that the New York-N. New Jersey-Long Island, NY-NJ-CT, PM_{2.5} nonattainment area (the NY-NJ-CT PM_{2.5} nonattainment area), had attained the 1997

PM_{2.5} NAAQS, and had attained the NAAQS by its required attainment date of April 5, 2010. The determinations were based upon complete, quality assured, quality controlled, and certified ambient air monitoring data that showed that the area had monitored attainment of the 1997 PM_{2.5} NAAQS for the 2007-2009 monitoring period by its attainment date of April 5, 2010. Ambient air monitoring data for 2010, 2011, and the first half of 2012 are consistent with continued attainment.

As part of this rulemaking, EPA proposes to add regulatory language under Part 52, chapter I, title 40 of the Code of Federal Regulations concerning the Determination of Attainment for the NY-NJ-CT PM_{2.5} nonattainment area by the April 5, 2010 attainment date. Although EPA had included regulatory language under Part 52, Subpart FF in the November 15, 2010 Federal Register (75 FR 69589) that the NY-NJ-CT PM_{2.5} nonattainment area had attained the 1997 PM_{2.5} NAAQS, EPA had inadvertently not included appropriate regulatory language that the area attained the 1997 annual PM_{2.5} by the applicable attainment date of April 5, 2010. EPA will amend Part 52 as indicated if this proposed action is finalized.

On May 16, 2012, EPA finalized determinations of attainment in the Federal Register (77 FR 28782) that the Philadelphia-Wilmington, PA-NJ-DE, PM_{2.5} nonattainment area, referred to this point forward as the PA-NJ-DE PM_{2.5} nonattainment area, had attained the 1997 PM_{2.5} NAAQS, and had attained the NAAQS by its required attainment date of April 5, 2010. The determinations were based upon complete, quality assured, quality controlled, and certified ambient air monitoring data that showed that the area had attained the 1997 PM_{2.5} NAAQS, based on ambient air monitoring data for the 2007-2009 and 2008-2010 monitoring

periods. Ambient air monitoring data for 2011 and the first half of 2012 are consistent with continued attainment.

Under the provisions of EPA's PM_{2.5} Implementation Rule (40 CFR 51.1004(c)), the requirements for New Jersey to submit an attainment demonstration and associated RACM, reasonable further progress plan, and contingency measures related to attainment of the 1997 PM_{2.5} NAAQS for the Northern New Jersey PM_{2.5} nonattainment area and Southern New Jersey PM_{2.5} nonattainment area are suspended for as long as the areas continue to attain the 1997 PM_{2.5} NAAQS, given the determinations of attainment for the NY-NJ-CT PM_{2.5} nonattainment area and the PA-NJ-DE PM_{2.5} nonattainment area.

Although the requirements are suspended for the elements listed above for the state's attainment plan, and the state may withdraw the submitted elements, EPA proposes to approve the attainment demonstration, as well as the RACT/RACM analysis, which are approvable based on EPA's analysis. See sections IV and V regarding EPA's analysis and the approvable elements of New Jersey's attainment plan submittal.

III. What Is Included in New Jersey's Attainment Plan?

In accordance with Section 172(c) of the CAA and with the PM_{2.5} Implementation Rule, the attainment plan submitted by the State for the Northern and Southern New Jersey PM_{2.5} nonattainment areas included: emission inventories for the plan's base year (2002) and projection year (2009); an attainment demonstration showing how the two nonattainment areas met the required April 5, 2010 attainment date for the 1997 annual PM_{2.5} NAAQS; an analyses of future-

year emissions reductions and air-quality improvements expected to result from national and local programs and from new measures to meet RACT/RACM requirements; adopted emission-reduction measures with schedules for implementation; motor-vehicle emissions budgets for the nonattainment year; and contingency measures.

To analyze future-year emissions reductions and air-quality improvements, New Jersey utilized the regional air quality modeling that was conducted for ozone, PM_{2.5}, and Regional Haze. New Jersey first introduced this modeling in its 8-hour ozone attainment demonstration¹ for modeling the ozone problem in the northeastern United States. The ozone season (May 1-September 30) photochemical modeling was combined with additional months of air quality modeling to predict attainment of the 1997 annual PM_{2.5} NAAQS. This modeling was performed in accordance with EPA's modeling guidance (EPA-454/B-07-002, April 2007).

IV. What is EPA's Analysis of New Jersey's Attainment Plan Submittal?

A. Attainment Demonstration

1. Emission Inventory Requirements

States are required under the CAA (section 172(c)(3)) to develop emissions inventories of point, area, and mobile sources for their attainment demonstrations. These inventories provide a detailed accounting of all emissions and emission sources by precursor or pollutant. In addition, inventories are used to model air quality to demonstrate that attainment of the NAAQS can be met by the deadline, which in this case is April 5, 2010 for the 1997 PM_{2.5} NAAQS. Emissions inventory guidance was provided in the April 1999 document "Emissions Inventory Guidance

¹ New Jersey submitted the Ozone Attainment Demonstration SIP on October 29, 2007

for Implementation of Ozone and Particulate Matter NAAQS and Regional Haze Regulations,” (EPA–454/R–99–006), which was updated in November 2005 (EPA–454/R–05–001). Emissions reporting requirements were provided in the 2002 Consolidated Emissions Reporting Rule (CERR)(67 FR 39602). On December 17, 2008 (73 FR 76539) EPA promulgated the Air Emissions Reporting Requirements (AERR) to update emissions reporting requirements in the CERR, and to harmonize, consolidate and simplify data reporting by states.

In accordance with the AERR and the November 2005 guidance, the PM_{2.5} Implementation Rule required states to submit inventory information on directly emitted PM_{2.5} and PM_{2.5} precursors and any additional inventory information needed to support an attainment demonstration and (where applicable) a Reasonable Further Progress (RFP) plan.

PM_{2.5} is comprised of filterable and condensable emissions. Condensable particulate matter (CPM) can comprise a significant percentage of direct PM_{2.5} emissions from certain sources, and is required to be included in national emission inventories based on emission factors. Test Methods 201A and 202 are available for source-specific measurement of condensable emissions. However, the PM_{2.5} Implementation Rule acknowledged that there were issues and concerns related to availability and implementation of these test methods as well as uncertainties in existing data for condensable PM_{2.5}. In recognition of these concerns, EPA established a transition period during which EPA could assess possible revisions to available test methods and to allow time for States to update emission inventories as needed to address direct PM_{2.5}, including condensable emissions. Because of the time required for this assessment, EPA recognized that States would be limited in how to effectively address CPM emissions,

and established a period of transition, up to January 1, 2011, during which State submissions for PM_{2.5} were not required to address CPM emissions. Amendments to these test methods were proposed on March 25, 2009 (74 FR 12969), and finalized on December 21, 2010 (75 FR 80118). The amendments to Method 201A added a particle-sizing device for PM_{2.5} sampling, and the amendments to Method 202 revised the sample collection and recovery procedures of the method to reduce the formation of reaction artifacts that could lead to inaccurate measurements of CPM.

PM_{2.5} submissions made during the transition period are not required to address CPM emissions, however, States may, if they elect, establish source emission limits that include CPM for submittals made before January 1, 2011.

In July 2008, Earth Justice filed a petition requesting reconsideration of EPA's transition period for CPM emissions provided in the PM_{2.5} Implementation Rule. In January 2009, EPA decided to allow states that have not previously addressed CPM to continue to exclude CPM for PSD permitting during the transition period. Today's action reflects a review of New Jersey's submittal based on current EPA guidance as described in the PM_{2.5} Implementation Rule. New Jersey has included CPM emissions, which were added to filterable emissions, when determining final direct PM_{2.5} emissions for the 2002 Base Year and 2009 Projection Year PM_{2.5} inventories.

a. 2002 Modeling Base Year

EPA proposed to approve New Jersey's 2002 Base Year inventories on May 9, 2006, (71

FR 26895) and approved the emission inventories on July 10, 2006 (71 FR 38770). The reader is referred to these rulemakings and the associated TSD for additional information concerning the emission inventories and EPA's approval.

For purposes of developing a 2009 projection year inventory, New Jersey also developed a modeling base year inventory. **Tables 1A and 1B** below show the 2002 modeling base year PM_{2.5}, nitrogen oxides (NO_x) and sulfur dioxide (SO₂) emission inventories for the Northern and Southern New Jersey PM_{2.5} nonattainment areas.

Table 1A: 2002 Northern New Jersey PM_{2.5} Modeling Base Year Inventory (in Tons/ Year)

Pollutant	Point	Area	Nonroad Mobile	Onroad Mobile	Total
PM _{2.5}	2,790	8,636	2,824	1,547	15,797
NO _x	34,432	18,428	42,661	102,997	198,518
SO ₂	37,750	6,242	6,654	2,244	52,890

Table 1B: 2002 Southern New Jersey PM_{2.5} Modeling Base Year Inventory (in Tons/ Year)

Pollutant	Point	Area	Nonroad Mobile	Onroad Mobile	Total
PM _{2.5}	940	2,218	789	537	4,484
NO _x	6,682	3,624	8,207	29,986	48,499
SO ₂	5,867	1,340	4,594	705	12,506

b. Modeling Projection Years

A projection of 2002 PM_{2.5}, NO_x, and SO₂ anthropogenic emissions to 2009 is required to determine the emission reductions needed for inventory attainment demonstration. The 2009 modeling projection year emission inventories are calculated by multiplying the 2002 base year inventory by factors which estimate growth from 2002 to 2009. A specific growth factor for each source type in the inventory is required since sources typically grow at different rates.

c. Projection Methodology

i. Major Point Sources

1) Electric Generating Units (EGUs)

For this point source sector, the projected emissions inventories were first calculated by estimating growth in each source category. As appropriate, the 2002 emissions inventory was used as the base for applying factors to account for inventory growth. The point source inventory was grown from the 2002 inventory to 2009 for each facility using growth factors utilized in EPA's Integrated Planning Model (IPM) model to forecast growth based on the following variables/factors: electric demand; natural gas, oil and coal supply forecasts; pollution control and performance; capacity cost and performance, and replacement of older less efficient and polluting power plants with newer more efficient units to meet future growth and state by state NO_x and SO₂ caps.

2) Non-Electric Generating Units (Non-EGUs)

For this point source sector, the projected emissions inventories were first calculated by estimating growth in each source category. As appropriate, the 2002 emissions inventory was used as the base for applying factors to account for inventory growth. The point source inventory was grown from the 2002 inventory to 2009 for each facility based on source classification codes using growth factors generated from EPA's Economic Growth Analysis System (EGAS) version 5.0, United States Department of Energy's (USDOE) Annual Energy Outlook Projections (AEO) 2005, and state specific population and employment data, where appropriate. Since these methodologies and growth indicators are some of the preferred growth indicators as outlined in EPA Guidance², EPA proposes that New Jersey's methodology for projecting point sources to be acceptable.

ii. Area Sources

For the area source category, New Jersey projected emissions from 2002 to 2009 using growth factors generated from USDOE AEO 2007, state specific population, employment data, and other state specific data where appropriate. This is in accordance with EPA's recommended growth indicators for projecting emissions for area source categories as outlined in EPA Guidance. Since these methodologies and growth indicators are some of the preferred growth

² EPA's follow-up memo "8-Hour Ozone National Ambient Air Quality Standards Implementation- Reasonable Further Progress (RFP)", dated August 2006; "Guidance on the Use of Models and Other Analyses for Demonstration Attainment of Air Quality Goals for Ozone, PM2.5 and Regional Haze", dated April 2007; "Guidance for Growth Factors, Projections, and Control Strategies for the 15 Percent Rate of Progress Plans", dated March 1993; "Guidance on the Post-1996 Rate of Progress Plan and Attainment Demonstration", dated January 1994; Emission Inventory Improvement Program guidance document titled "Volume X, Emission Projections", dated December 1999

indicators outlined in EPA Guidance², EPA proposes to find New Jersey's methodology for projecting area sources to be acceptable.

iii. Non-Road Mobile Sources

Non-road vehicle and equipment emissions were projected from 2002 to 2009 using the EPA's National Mobile Inventory Model (NMIM) 2005. NMIM 2005 contains growth factors, which are based on the historical trends in nonroad equipment activity. This model was used to calculate past and future emission inventories for all nonroad equipment categories except commercial marine vessels (CMV), locomotives and aircrafts. Emissions were determined on a monthly basis and combined to provide annual emission estimates.

Aircraft, locomotives and CMV emissions were projected based on combined growth and control factors from USEPA Clean Air Interstate Rule (CAIR) by determining the level of emissions and their associated ratios between 2002 base and 2025 projection year. From this point, the State determined the ratio of emissions between 2002 and 2009 projection year using linear interpolation. The ratios between 2002 and 2009 were determined and then multiplied by the 2002 base year to determine 2009 projection year emissions.

Since these methodologies and growth indicators are some of the preferred growth indicators outlined in EPA Guidance, EPA proposes to find New Jersey's methodology for projecting non-road mobile sources to be acceptable.

iv. Onroad Mobile Sources

For the onroad mobile source category, the primary indicator and tool for developing on- road mobile growth and expected emissions are vehicle miles traveled (VMT) and USEPA's mobile emissions model Mobile 6.2.03 (MOBILE6.2). The 2009 pollutant emission factors were generated by MOBILE6.2 (with the associated controlled measures applied, where appropriate) and applied to the monthly VMT projections provided by the State. Monthly emissions were then combined to develop annual emission estimates. Since these methodologies and growth indicators are some of the preferred growth indicators outlined in EPA Guidance, EPA proposes to find New Jersey's methodology for projecting on-road mobile sources to be acceptable.

Based on EPA's guidance, the 2009 modeling inventories are complete and approvable. A more detailed discussion on how the emission inventories were reviewed and the results are presented in the TSD. These documents provide further details and references on how projections were performed.

Tables 2A and 2B show the 2009 modeling projection emission inventories controlled after 2002 using the aforementioned growth indicators/methodologies for the Northern and Southern New Jersey PM_{2.5} nonattainment areas.

Table 2A: 2009 Northern New Jersey PM_{2.5} Modeling Projection Year Inventory
(Controlled) (in Tons/Year)

Pollutant	Point	Area	Nonroad Mobile	Onroad Mobile	Total
PM _{2.5}	3,169	8,332	2,295	956	14,752
NO _x	13,378	16,502	33,714	50,097	113,691
SO ₂	18,616	6,208	1,530	457	26,811

Table 2B: 2009 Southern New Jersey PM_{2.5} Modeling Projection Year Inventory

(Controlled) (inTons/Year)

Pollutant	Point	Area	Nonroad Mobile	Onroad Mobile	Total
PM _{2.5}	1,265	2,073	690	308	4,336
NO _x	5,479	3,284	7,156	15,018	30,927
SO ₂	3,289	1,331	982	110	5,712

2. Pollutants Addressed

In accordance with the PM_{2.5} Implementation Rule, New Jersey's PM_{2.5} attainment plan evaluates emissions of direct PM_{2.5}, SO₂, and NO_x in the Northern and Southern New Jersey PM_{2.5} nonattainment areas. New Jersey's SIP submission indicated that it agreed with EPA policy where volatile organic compounds (VOCs) and ammonia are not presumed to be PM_{2.5} attainment plan precursors.

3. Modeling

All attainment demonstrations must include modeling that is performed in accordance with EPA's "Guidance on the Use of Models and Other Analyses for Demonstrating Attainment of Air Quality Goals for Ozone, PM_{2.5}, and Regional Haze" (EPA-454/B-07-002, April 2007). Modeling may be based on national (e.g., EPA), regional (e.g., Ozone Transport Commission), local modeling, or a combination thereof, if appropriate. A brief description of modeling used to support New Jersey's attainment demonstration follows. For more detailed information about this modeling, please refer to the TSD. Ambient PM_{2.5} typically includes both primary PM_{2.5} (directly emitted) and secondary PM_{2.5} (e.g., sulfate and nitrate formed by chemical reactions in

the atmosphere). Some of the physicochemical processes leading to formation of secondary PM_{2.5} may take hours or days, as may some of the removal processes. Thus, some sources of secondary PM_{2.5} may be sources outside of the nonattainment area. To cover a sufficient geographic area to take these processes into account and to use state resources more efficiently, the Ozone Transport Commission (OTC) on behalf of its member states (which include New Jersey, New York, Connecticut, Delaware, and Pennsylvania) performed photochemical grid modeling for their multi-state nonattainment areas.

The OTC Modeling Committee, which coordinated preparing and running the photochemical grid model, chose the Community Multi-scale Air Quality (CMAQ) model as the photochemical grid model of choice. Since the model predicts both ozone, and PM_{2.5} ambient concentrations, the same parameters were used in the modeling runs used to demonstrate attainment of the ozone NAAQS. EPA concurs that this model is appropriate for modeling the formation and distribution of PM_{2.5}. The model domain covered almost all of the eastern United States, with a high-resolution grid covering the states in the northeast ozone transport region, including New Jersey.

Under the direction of the OTC Modeling Committee, several states and modeling centers performed the regional modeling runs and contributed to the regional modeling effort, including the New York State Department of Environmental Conservation (NYSDEC), the Ozone Research Center at the University of Medicine & Dentistry of NJ/ Rutgers (UMDNJ/ORC), the University of Maryland (UMD), the Northeast States for Coordinated Air Management (NESCAUM), and the Mid-Atlantic Regional Air Management Agency (MARAMA). The NYSDEC ran the CMAQ model for the May 1 through September 30 ozone season, which was

supplemented by modeling runs performed by UMDNJ/ORC (March and April), NESCAUM (October, November, December), and the UMD (January, February), for the purposes of determining PM_{2.5} attainment.

The OTC Modeling Committee used annual 2002 meteorology for the modeling analysis. 2002 was the base year for the attainment plans and the year of the emission inventory used in the base year modeling. The OTC Modeling Committee used a Mesoscale Meteorological model, (MM5) version 3.6, a weather forecast model developed by Pennsylvania State University and the National Center for Atmospheric Research for the weather conditions used by the photochemical grid model. Details about how the states used the MM5 model are in Appendix B3 of New Jersey's SIP submittal.

States across the eastern United States provided emissions information from their sources to be used in the model. MARAMA collected and quality assured the states' emissions data and processed these data for the photochemical grid model to use. The states also included the control measures that were already adopted as well as the control measures that the state was committing to adopt from a list of "Beyond On the Way" (BOTW) control measures, which would provide additional emission reductions. Emissions data for the model from outside the Northeast was obtained from other regional planning organizations. States provided projected emissions for 2009 that account for emission changes due to regulations the states plan to implement prior to 2009, as well as expected growth.

Table 3 below lists the control measures that New Jersey took into account in the projected 2009

BOTW CMAQ run. See the TSD for the listing of the BOTW measures that would be implemented in other states in the Ozone Transport Region (OTR), which New Jersey is a part of, to achieve benefits in 2009. Some states in the OTR have chosen to adopt different control strategies than New Jersey.

Table 3: Modeled Control Measures Included in the 2009 BOTW Model Run for New Jersey

Pre-2002 with Benefits Achieved Post-2002 - On the Books
<i>Federal</i>
Residential Woodstove New Source Performance Standards (NSPS)
Onboard Refueling Vapor Recovery (ORVR) Beyond Stage II
Tier 1 Vehicle Program
National Low Emission Vehicle Program (NLEV)
Tier 2 Vehicle Program/Low Sulfur Fuels
Heavy-Duty Diesel Vehicles (HDDV) Defeat Device Settlement
HDDV Engine Standards
Nonroad Diesel Engines
Large Industrial Spark-Ignition Engines over 19 kilowatts
Recreational Vehicles (includes Snowmobiles, Off-Highway Motorcycles, and All-Terrain Vehicles)
Diesel Marine Engines over 37 kilowatts
Phase 2 Standards for Small Spark-Ignition Handheld Engines at or below 19 kilowatts
Phase 2 Standards for New Nonroad Spark-Ignition Non-Handheld Engines at or below 19 kilowatts

Acid Rain
Post-2002 - On the Books
<i>New Jersey Measures Done Through a Regional Effort</i>
Consumer Products 2005
Architectural Coatings 2005
Portable Fuel Containers 2005 (Area Source Only)
Mobile Equipment Repair and Refinishing
Solvent Cleaning
NO _x RACT Rule (2006)
New Jersey Heavy Duty Diesel Rules Including "Not-To-Exceed" (NTE) Requirements
<i>New Jersey Only</i>
Stage I and Stage II (Gasoline Transfer Operations)
On-Board Diagnostics (OBD) – Inspection and Maintenance (I/M) Program for Gasoline Vehicles
Federal
USEPA Maximum Available Control Technology (MACT) Standards
CAIR (NO _x Controls in 2009 Only)
Refinery Consent Decrees (Sunoco, Valero, and ConocoPhillips)
Post-2002 - Beyond the Way
<i>New Jersey Measures Done Through a Regional Effort</i>
Consumer Products 2009 Amendments
Portable Fuel Containers 2009 Amendments (Area Source Only)
Asphalt Paving

Adhesives and Sealants
Industrial/Commercial/Institutional (ICI) Boiler Rule 2009
<i>New Jersey Only</i>
New Jersey Low Emission Vehicle (LEV) Program
Controls from EGU Consent Decrees (PSE&G Mercer)
Controls from EGU Consent Decrees (PSE&G Hudson NO _x)

NO_x emission reductions from the Clean Air Interstate Rule (CAIR) were included in the list of control measures that New Jersey took into account in the projected 2009 BOTW CMAQ run. EPA published CAIR on May 12, 2005 (76 FR 70093), to address the interstate transport requirements of the CAA. EPA approved New Jersey rules that allowed the State to allocate NO_x allowances to New Jersey sources beginning in 2009, on October 1, 2007 (72 FR 55666).

As originally promulgated, CAIR requires significant reductions in emissions of SO₂ and NO_x to limit the interstate transport of these pollutants. In 2008 the United States Court of Appeals for the District of Columbia (D.C. Circuit) vacated and remanded CAIR, and the CAIR FIPs (71 FR 25328, April 28, 2006) finding it to be inconsistent with the requirements of the CAA. *North Carolina v. EPA*, 531 F.3d 896 (D.C. Cir. 2008). Following EPA's request for re-hearing, the court remanded the rule to EPA without vacatur, finding that "allowing CAIR to remain in effect until it is replaced by a rule consistent with [the court's] opinion would at least temporarily preserve the environmental values covered by CAIR." *North Carolina v. EPA*, 550 F.3d 1176, 1178. CAIR and the CAIR FIPs remained in place and enforceable through the April 5, 2010, attainment date.

In response to the court's decision, EPA issued a new rule to address interstate transport of emissions, "Federal Implementation Plans: Interstate Transport of Fine Particulate Matter and Ozone and Correction of SIP Approvals: Final Rule" (known as the Cross-State Air Pollution Rule or Transport Rule). 76 FR 48208, August 8, 2011. In the Transport Rule, EPA finalized regulatory changes to sunset (i.e., terminate) CAIR and the CAIR FIPs for control periods in 2012 and beyond. *See* 76 FR 48322.

On December 30, 2011, the D.C. Circuit issued an order addressing the status of the Transport Rule and CAIR in response to motions filed by numerous parties seeking a stay of the Transport Rule pending judicial review. In that order, the D.C. Circuit stayed the Transport Rule pending the court's resolution of the petitions for review of the rule. *EME Homer Generation, L.P. v. EPA* (No. 11-1302 and consolidated cases). The court also indicated that EPA is expected to continue to administer CAIR in the interim until the court rules on the petitions for review of the Transport Rule.

On August 21, 2012, the D.C. Circuit vacated the Transport Rule, *EME Homer City Generation, L.P. v. EPA, No. 11-1302*, ruling that EPA had exceeded the agency's statutory authority. However, the decision on the Transport Rule does not disturb EPA's determination that it is appropriate to move forward with this proposed action. This action proposes to approve an attainment plan that demonstrated that the NY-NJ-CT PM_{2.5} nonattainment area and the PA-NJ-DE PM_{2.5} nonattainment area would attain the 1997 annual PM_{2.5} NAAQS by 2010, which it did, as discussed in section II.C. The air quality analysis conducted for the Transport Rule demonstrates that the NY-NJ-CT PM_{2.5} nonattainment area and the PA-NJ-DE PM_{2.5}

nonattainment area would be able to attain the 1997 annual PM_{2.5} NAAQS even in the absence of CAIR or the Transport Rule. See Appendix B to the Air Quality Modeling Final Rule Technical Support Document for the Cross-State Air Pollution Rule³. Nothing in the D.C. Circuit's August 2012 decision disturbs or calls into question that conclusion or the validity of the air quality analysis on which it is based. More importantly, the Transport Rule is not relevant to this action. The Transport Rule only addresses emissions in 2012 and beyond. As such, neither the Transport Rule itself, nor the vacatur of the Transport Rule, is relevant to the question addressed in this proposal notice. The purpose of this action is to determine whether the attainment plan submitted by New Jersey is sufficient to bring the NY-NJ-CT PM_{2.5} nonattainment area and the PA-NJ-DE PM_{2.5} nonattainment area into attainment by the April 2010 attainment date, a date before the Transport Rule was even promulgated.

Similarly, the status of CAIR after the April 2010 attainment date is also not relevant to this action since CAIR was in place and enforceable through the attainment date. CAIR was an enforceable control measure applicable to affected sources in the area, as well as sources throughout the Eastern United States. As such, the current status of CAIR is irrelevant to and does not impact our conclusion that the attainment plan should be approved. Moreover, in its August 2012 decision, the Court also ordered EPA to continue implementing CAIR. See *EME Homer City*, slip op. at 60. For these reasons, neither the current status of CAIR nor the current status of the Transport Rule affects any of the criteria for proposed approval of this SIP revision.

³ The document is [available at](http://www.epa.gov/crossstaterule/pdfs/AQModeling.pdf) <http://www.epa.gov/crossstaterule/pdfs/AQModeling.pdf>

The control measures listed in Table 3 does not include additional measures, which the state had planned to implement by 2010, that would result in additional emissions reductions of direct PM_{2.5} and precursors. These additional measures, shown in Table 4 below, which were not included in the photochemical grid modeling, and which have been subsequently adopted by the State, were submitted by New Jersey to provide additional evidence that the New Jersey associated nonattainment areas would attain the 1997 PM_{2.5} NAAQS by the required April 5, 2010 attainment date.

Table 4: Control Measures Adopted by New Jersey Not Captured in the 2009

BOTW Model Run

<i>Federal</i>
New Nonroad Engine Standards
Locomotive Engines and Marine Compression-Ignition Engines Less than 30 Liters per Cylinder
Energy Conservation Standards for New Federal Commercial and Multi-Family High-Rise Residential Buildings
<i>State</i>
Diesel Idling Rule Changes
Diesel Smoke (I/M Cutpoint) Rule Changes
Case-by-Case NO _x Limit Determinations (Facility-Specific Emission Limits/ Alternative Emission Limits)
Municipal Waste Combustors (Incinerators) NO _x Rule
New Jersey Low Emission Vehicle Program from Fleet Turnover Post 2009
On-road Fleet Turnover and Non-Road Equipment Turnover Post 2009
Controls from EGU Consent Decrees (PSE&G Hudson SO ₂)

Nonattainment New Source Review
Asphalt Production Plants Rule
Glass Manufacturing
High Electric Demand Day (HEDD Program)
Oil and Gas Fired Electric Generating Units (EGU's) Rule (Portion Not Modeled from Consent Decrees)
Sewage Sludge Incinerators
NOx RACT Rule 2006 (Portion Not Modeled)
ICI Boiler Rule 2009 (Portion Not Modeled)
Low Sulfur Distillate and Residual Fuel Strategies
Smoke Management

In summary, New Jersey is relying on “modeled” control measures to demonstrate that the NY-NJ-CT PM_{2.5} nonattainment area and the PA-NJ-DE PM_{2.5} nonattainment area would reach attainment by April 5, 2010, and has also included additional “non-modeled” measures as additional support for attainment and continued attainment.

EPA provided guidance to states and tribes for projecting PM_{2.5} concentrations using a “speciated modeled attainment test” (SMAT) (EPA-454/B-07-002, April 2007). EPA also provided a software program (Model Attainment Test Software “MATS”) that allows calculation of future year PM_{2.5} design values using the SMAT assumptions contained in the modeled guidance⁴. MATS uses the following PM_{2.5} species: sulfate, nitrate, ammonium, directly emitted inorganic particles, elemental carbon, organic carbon, particle bound water, and blank mass (and optionally

4 MATS is [available at: http://www.epa.gov/scram001/modelingapps/mats.htm](http://www.epa.gov/scram001/modelingapps/mats.htm)

salt). Once modeling for a projection year and a base year is complete, relative response factors (RRFs) are computed for sulfate, nitrate, directly emitted inorganic particles, elemental carbon, and organic carbon. For each monitoring location, the quarterly RRF for a component is computed as the ratio of the projection year divided by the base year modeled concentration for a three-by-three array of modeled grid cells centered on the monitoring location. The projection year concentrations are calculated by multiplying quarterly base year concentrations by the RRF for each $PM_{2.5}$ component. The sum of the estimated projection year component concentrations is the estimated projection year $PM_{2.5}$ concentration. If future estimates of $PM_{2.5}$ concentrations are less than the 1997 NAAQS, then the modeling indicates attainment of the standard.

$PM_{2.5}$ includes a mixture of components that can behave independently from one another (e.g., primary vs. secondary particles) or that are related to one another in a complex way (e.g., different secondary particles). Thus, it is appropriate to consider $PM_{2.5}$ as the sum of its major components. As recommended in EPA's modeling guidance, New Jersey divided $PM_{2.5}$ into its major components and noted the effects of a strategy on each. The effect on $PM_{2.5}$ was estimated as a sum of the effects on individual components. Future $PM_{2.5}$ design values at specified monitoring sites were estimated by adding the future- year values of the seven $PM_{2.5}$ (sulfates, nitrates, ammonium, organic carbon, elemental carbon, particle bound water, other primary inorganic particulate matter) components.

For the PA-NJ-DE $PM_{2.5}$ nonattainment area, all future site-specific $PM_{2.5}$ design values were below the concentration specified in the NAAQS. The highest value predicted in the nonattainment area was from the monitor located on Broad Street in Philadelphia, PA,

and the predicted value was $13.9 \mu\text{g}/\text{m}^3$. Therefore, the PA-NJ-DE $\text{PM}_{2.5}$ nonattainment area passed the SMAT.

For the NY-NJ-CT $\text{PM}_{2.5}$ nonattainment area, future site-specific $\text{PM}_{2.5}$ design values were below the concentration specified in the NAAQS with the exception of the PS59 monitoring site located in New York County. The projected 2009 value of $15.3 \mu\text{g}/\text{m}^3$ for PS59 was within the weight-of-evidence (WOE) range of values, $14.5 \mu\text{g}/\text{m}^3$ to $15.5 \mu\text{g}/\text{m}^3$, as defined in the $\text{PM}_{2.5}$ modeling guidance (EPA-454/B-07-002, April 2007).

New Jersey used a multi-analysis and WOE approach to support the results from the modeled attainment test. In addition to the speciated modeled attainment test, New Jersey presented the following information, which is further described in the TSD, to demonstrate attainment by April 5, 2010:

- Air monitoring data measured from 2000 to 2006 at monitoring sites in both the PA-NJ-DE and the NY-NJ-CT $\text{PM}_{2.5}$ nonattainment areas showed declining ambient $\text{PM}_{2.5}$ concentrations;
- Technical information from a New York State WOE presentation concerning the PS59 monitoring site: incomplete data in the third quarter of 2003 due to construction work at the site, and lack of collocated speciation data, may have resulted in an estimate of $\text{PM}_{2.5}$ being above the level of the NAAQS at the PS59 monitor;
- Additional measures from New York that were not represented in the projection inventories for 2009 and that will contribute to attainment at the PS59 monitor; and

- Additional measures from New Jersey that were not included in the projection year inventories for 2009 that would likely lead to PM_{2.5} concentration below the 2009 modeled design values and support New Jersey's demonstration of attainment of the PM_{2.5} NAAQS in its two multistate nonattainment areas.

As a result of this WOE review, New Jersey concluded that the State of New Jersey, and the New Jersey associated nonattainment areas will attain the 1997 PM_{2.5} NAAQS by the required 2010 attainment date.

Complete, quality assured, quality controlled, and certified air quality data from 2007-2009, 2008-2010, and 2009-2011 are available for air monitors in both New Jersey associated PM_{2.5} nonattainment areas. Under EPA's modeling guidance, this data would be considered evidence to be weighed in a WOE process.

EPA published a Federal Register (75 FR 69589) on November 15, 2010 finding that the NY-NJ-CT PM_{2.5} nonattainment area had attained the PM_{2.5} NAAQS, based upon monitored attainment during the 2007-2009 monitoring period. Ambient air monitoring data for 2008-2010 and for 2009-2011 show continued attainment. EPA had reviewed ambient air monitoring data for PM_{2.5} consistent with the requirements contained in 40 CFR part 50 and recorded in the EPA Air Quality System (AQS) database. The 3-year averages of the annual mean PM_{2.5} concentrations are less than the NAAQS of 15.0 µg/m³. Table 5 shows the design values by county for the NY-NJ-CT PM_{2.5} nonattainment area PM_{2.5} monitors for the years 2001 through 2011. Overall, county design values continued to decline across the nonattainment area through 2011. As shown

in Table 5, the column labeled 06-08 DV indicates that, beginning in 2006-2008, all county design values have been below the NAAQS of 15.0 $\mu\text{g}/\text{m}^3$.

Table 5.-Design Values by County for the 1997 Annual $\text{PM}_{2.5}$ NAAQS for the NY-NJ-CT monitors in Micrograms per Cubic Meter ($\mu\text{g}/\text{m}^3$). The standard for the 1997 Annual $\text{PM}_{2.5}$ NAAQS is 15.0 $\mu\text{g}/\text{m}^3$

County	01-03 DV	02-04 DV	03-05 DV	04-06 DV	05-07 DV	06-08 DV	07-09 DV	08-10 DV	09-11 DV
Bronx	15.7	15.2	15.7	15.1	15.5	14.3	13.9	12.5	11.9
Kings	14.7	14.2	14.6	14.0	14.0	12.9	12.2	10.8	10.3
Nassau	12.2	11.7	12.1	11.5	11.4	10.9	10.3	9.5	8.9
New York	17.5	16.7	17.0	15.7	15.9	14.9	14.0	12.1	11.7
Orange	11.5	11.1	11.4	10.8	10.8	10.0	9.3	8.5	8.2
Queens	INC	12.8	12.7	12.1	11.8	11.3	10.6	10.0	INC
Richmond	12.0	11.5	11.8	13.4	13.2	12.4	11.6	10.5	8.5
Rockland	NM	NM	NM	NM	NM	NM	NM	NM	NM
Suffolk	12.1	11.3	11.5	INC	INC	10.5	9.7	8.9	8.4
Westchester	12.3	11.7	11.9	11.6	11.7	11.2	10.6	9.6	9.1
Bergen	INC	12.8	13.3	12.8	13.2	12.2	11.3	9.8	9.2
Essex	INC	13.5	INC	13.2	13.3	INC	INC	INC	INC
Hudson	14.7	14.3	14.7	14.1	14.0	14.1	13.1	11.6	11.1
Mercer	13.8	13.0	13.0	12.7	12.5	11.9	10.8	10.0	9.7
Middlesex	12.4	11.8	12.5	11.8	12.1	11.3	10.4	8.8	7.9
Monmouth	NM	NM	NM	NM	NM	NM	NM	NM	NM
Morris	INC	11.6	11.9	11.2	11.3	10.3	9.6	8.7	8.5
Passaic	INC	12.9	13.1	12.6	12.9	12.3	11.3	9.8	INC
Somerset	NM	NM	NM	NM	NM	NM	NM	NM	NM
Union	15.5	15.3	15.5	14.8	14.4	13.6	12.6	11.6	11.4
Fairfield	13.1	12.7	13.3	13.2	13.2	12.4	11.3	10.0	9.4
New Haven	13.9	13.4	13.5	13.0	12.8	12.2	11.4	10.3	9.6

NM- No monitor located in county

INC- Incomplete data for time period. All counties listed as INC for time period did not meet 75 percent data completeness requirement.

Note: The air monitor at the Newark Willis Center station in Essex County was discontinued on July 24, 2008 due to an unexpected loss of access, and replaced with a new monitor at the Newark Firehouse. $\text{PM}_{2.5}$ monitoring was established at the firehouse on May 13, 2009. The monitors in Queens and Passaic had incomplete data due to instrument malfunction, and / or insufficient sampling frequency in one quarter

On May 16, 2012, EPA finalized in the Federal Register (77 FR 28782) a determination that the PA-NJ-DE $\text{PM}_{2.5}$ nonattainment area had attained the 1997 $\text{PM}_{2.5}$ NAAQS, based upon ambient

air monitoring data for the 2007-2009 and 2008-2010 monitoring periods. The 3-year averages of the annual mean PM_{2.5} concentrations are less than the NAAQS of 15.0 µg/m³. Table 6 shows the design values by county for the PA-NJ-DE PM_{2.5} nonattainment area monitors for the years 2001 through 2011. As shown in Table 6, the column labeled 04-06 DV indicates that ambient air monitoring data has been less than or equal to the NAAQS, beginning in 2004-2006.

Table 6.-Design Values by County for the 1997 Annual PM_{2.5} NAAQS for the PA-NJ-DE monitors in Micrograms per Cubic Meter (µg/m³). The standard for the 1997 Annual PM_{2.5} NAAQS is 15.0 µg/m³

County	01-03 DV	02-04 DV	03-05 DV	04-06 DV	05-07 DV	06-08 DV	07-09 DV	08-10 DV	09-11 DV
New Castle	16.2	15.3	15.1	14.8	14.7	14.2	13.0	11.7	10.7
Camden	INC	13.7	13.8	13.3	13.5	12.7	11.7	10.3	9.7
Gloucester	13.5	12.8	13.5	INC	INC	INC	11.4	10.0	INC
Burlington	NM	NM	NM	NM	NM	NM	NM	NM	NM
Bucks	14.3	13.9	13.9	13.2	13.2	12.6	12.2	11.3	10.9
Chester	INC	INC	15.2	INC	INC	INC	13.9	13.8	INC
Delaware	15.4	15.1	15.7	15.0	15.0	14.1	13.7	13.3	12.9
Montgomery	14.1	INC	INC	INC	INC	12.3	11.7	10.5	10.1
Philadelphia	16.2	15.4	15.2	INC	INC	INC	13.0	12.0	11.4

NM- No monitor located in county

INC- Incomplete data for time period. All counties listed as INC for time period did not meet 75 percent data completeness requirement.

The monitor in Gloucester had incomplete data due to instrument malfunction, and / or insufficient sampling frequency in one quarter

EPA proposes to find that the attainment demonstration modeling to be acceptable. New Jersey has followed EPA's modeling guidance, and demonstrated through modeling and the weight-of-evidence process that the area would reach attainment by April 5, 2010.

B. Reasonable Further Progress (RFP)

The PM_{2.5} Implementation Rule requires a State to submit a separate RFP plan for any area for which the State justifies an extension of the attainment date beyond 2010. Areas that demonstrate attainment of the standard by 2010 are considered to have satisfied the requirement to show reasonable further progress toward attainment and need not submit a separate RFP plan. There are separate RFP requirements for those nonattainment areas with attainment dates beyond 2010.

Since New Jersey has submitted an attainment demonstration that shows attainment by the 2010 deadline, thus satisfying the RFP requirement, a separate RFP plan is not necessary.

C. Reasonably Available Control Technology/Reasonably Available Control Measures (RACT and RACM)

As described in the PM_{2.5} Implementation Rule, EPA is requiring a combined approach to RACT and RACM. Under this approach, RACT and RACM are those measures that a state finds are both reasonably available and contribute to attainment “as expeditiously as practicable” in a specific nonattainment area. By definition, measures that do not help an area attain the NAAQS “as expeditiously as practicable” are not required RACT/RACM.

In the preamble to the PM_{2.5} Implementation Rule, EPA provided a recommended list of the types of source categories and types of control measures that may be appropriate for evaluation, based upon the local source mix and attainment needs of a specific area. In order to establish that the target attainment date is as expeditious as practicable, it is necessary to evaluate the combination of measures that could advance the attainment date. A state’s attainment plan must

include a list of measures considered and information sufficient to show that a state met all requirements for determination of RACT/RACM.

Determination of RACT/RACM is a three-step process: (1) identifying technically and economically feasible measures and associated emissions reductions, (2) conducting air-quality modeling and related analyses, and (3) selecting RACT/RACM. Identification of potential measures must be based on an inventory of emissions of directly emitted PM_{2.5} and PM_{2.5} precursors from the range of relevant sources and source categories.

Technical feasibility refers to whether there are available measures capable of reducing emissions of PM_{2.5} or PM_{2.5} precursors or both. A number of factors are considered in this analysis, such as process and operating conditions, raw materials, physical plant layout, non-air quality and energy impacts, and the time needed to install and operate controls.

Economic feasibility refers to whether the cost of a measure is reasonable for the regulated entity. A number of factors are considered in this analysis, such as cost per ton of pollution reduced, economic effects on a facility and on the local economy. The cost per ton for previous measures is an indicator of reasonableness; however, the ability of a facility to absorb costs may differ for different source categories. The guiding principle is that the selected RACT/RACM does not exclude any group of reasonable controls that together could advance the attainment date by at least a year.

New Jersey's RACT/RACM analysis for potential control measures was divided into two parts:

A PM_{2.5} RACT Assessment for existing major stationary point sources, and a RACM analysis for additional point, area, on-road mobile sources and off-road sources.

1. PM_{2.5} RACT

New Jersey used several venues in its effort to identify potential emission reductions. New Jersey held a public workshop entitled "*Reducing Air Pollution Together*" and established technical workgroups to obtain input on the stringency of existing requirements and evaluate potentially new RACT controls for significant emission reductions of NO_x, VOC, SO₂, and PM_{2.5}. This was followed by state participation in regional control development efforts, and an internal NJDEP assessment of RACT controls. The recommendations from these efforts were further evaluated by NJDEP's Air Quality Management team, and resulted in a list of approximately 60 potential control measures.

Each control measure was subsequently evaluated based on information collected regarding emission benefits, implementation issues, cost-effectiveness, and existing controls. White papers were developed and utilized to further inform the decision for determining RACT control measures.

NJDEP conducted a review of current state and federal requirements such as New Jersey Administrative Code (NJAC) 7:27-4, NJAC 7:27-6, and 7:27-9, New Source Performance Standards (NSPS), Maximum Available Control Technology (MACT), and an evaluation of whether existing controls at the time of installation were previously considered Best Available Control Technology (BACT), Lowest Available Emission Rate (LAER) or State of the Art

(SOTA). In addition NJDEP evaluated other states' regulations, such as those in effect in California, and information listed in the USEPA's RACT/ BACT/LAER Clearinghouse (RBLC).

Table 7 lists the RACT source categories for which the State adopted as new or revised measures along with the targeted pollutants and affected rules and categories. They were also included in New Jersey's ozone SIP since they also targeted precursors for ozone. The ozone SIP revision was approved by EPA on May 15, 2009 (74 FR 22837). New Jersey adopted all of the rules listed in Table 7 on or before March 20, 2009.

The Industrial, Commercial & Institutional Boilers measure identified as a RACT measure by New Jersey was also included in the regional photochemical grid modeling to demonstrate attainment. Although not included in the regional modeling (except partially through EGU consent decrees), the other measures listed in Table 7 provide additional emission reduction benefits and are included as WOE measures to provide additional evidence that the New Jersey associated nonattainment areas would attain the 1997 PM_{2.5} NAAQS. Section IV.A.3 and the TSD provide further discussion on the control measures used to demonstrate attainment by New Jersey.

There were no additional PM-specific RACT measures available that would qualify as RACM since they could not be implemented early enough to advance the attainment date.

Table 7: New Jersey PM_{2.5} RACT

Candidate Source Categories	Targeted Pollutants				Affected Rules
	NO _x	VOC	SO ₂	PM _{2.5}	

Asphalt Pavement Production Plants	X				NJAC 7:27-19.9
Glass Manufacturing Furnaces	X		X	X	NJAC 7:27-19.2, 19.10
Industrial, Commercial & Institutional Boilers	X				NJAC 7:27-19.7
Coal-Fired EGU Boilers	X		X	X	NJAC 7:27-4, 10 & 19.4
Oil and Gas-Fired EGUs	X				NJAC 7:27-19.4
High Electrical Demand Day EGUs	X				NJAC 7:27-19.4, 19.5, & 19.29
Case by Case, Facility-Specific Emission Limit & Alternative Emission Limit	X	X			NJAC 7:27-16.17 & 19.13
Municipal Waste Combustors (incinerators) NO _x rule	X				NJAC 7:27-19.12
Sewage Sludge Incinerators	X				NJAC 7:27-19.28

2. PM_{2.5} RACM

The New Jersey Department of Transportation (NJDOT), in consultation with the NJDEP, identified 26 measures to be evaluated as prospective mobile source measures that could be considered reasonably available control measures. After identifying these measures, NJDOT analyzed each measure for its potential emissions reduction benefit, economic feasibility, technological feasibility, practicability and potential adverse impact. NJDOT analyzed each prospective emission control measure for each nonattainment area. One measure, *School Bus Replacement of model years 2002 and older to be replaced with model year 2007 buses*, passed on all RACM criteria, but could not be implemented early enough to advance the attainment date from 2010 to 2009. The measure would have needed to be in place by 2008 to achieve reductions in 2009.

NJDEP reviewed a variety of sources of information, such as, those from regional planning organizations, other state organizations, existing NJDEP documents, EPA regional efforts, and New Jersey State organizations to develop a list of 628 potential non-transportation control measures (non-TCMs). Over 250 potential control measures were developed from New Jersey's *"Reducing Air Pollution Together."* White papers were developed and utilized to further inform the decision for determining RACM control measures. Fifteen non-TCMs passed all RACM criteria but could not be implemented by 2008.

New Jersey noted in its SIP revision that they intended to pursue other measures which will help the state attain the new 2006 PM_{2.5} NAAQS. These measures include lowering the sulfur content of fuel oil, which has since been adopted by the state. EPA approved revisions to New Jersey's Subchapter 9, Sulfur in Fuels rule, on January 3, 2012 as part of EPA's approval of the New Jersey Regional Haze SIP⁵. This rule will reduce the sulfur content in all distillate heating oil (No.2 and lighter distillate fuel) to 500 parts per million (ppm) by July 1, 2014 and to 15 ppm by July 1, 2016. The adopted rule will also reduce the sulfur content in No.4 fuel oil to a consistent 2,500 ppm throughout the State and reduce the sulfur content in No.5, No.6, and heavier fuel oil to 5,000 ppm or less on July 1, 2014. New Jersey estimated⁶ a total SO₂ emission reduction in 2014 and 2016 from the new sulfur in fuel standards of 1,544 tons per year.

3. RACT/ RACM Conclusion

EPA is proposing to approve New Jersey's evaluation of the RACT/RACM control measures for the Northern and Southern New Jersey PM_{2.5} nonattainment areas.

⁵ Federal Register notice: 77 FR 19 (January 3, 2012)

⁶ New Jersey Register notice: 41 N.J.R. 4156 (November 16, 2009)

EPA has reviewed the RACT/RACM analysis submitted by New Jersey and finds that there were no additional measures that would have advanced the area attainment date of April 5, 2010.

As noted previously, the most current monitoring data for the Northern and Southern New Jersey PM_{2.5} nonattainment areas indicates that the areas are attaining the 1997 PM_{2.5} NAAQS. EPA's guidance for the PM_{2.5} Implementation Rule recommended that if an area was predicted through the attainment plan to attain the standards within five years after designation, then the State would not need to conduct and submit additional RACM/RACT analyses. In light of the fact that the Northern and Southern New Jersey PM_{2.5} nonattainment areas are now attaining the standards, EPA proposes to conclude that the attainment plan meets the RACT/RACM requirements of the PM_{2.5} Implementation Rule, and that the level of control in the State's attainment plan constitutes RACM/RACT for purposes of the 1997 PM_{2.5} NAAQS. Because the PM_{2.5} Implementation Rule defines RACT/RACM as that level of control that is necessary to bring the area into attainment, the current level of federally enforceable controls on sources located within the area is by definition RACT/RACM for these areas for this purpose. New Jersey's demonstration for attaining the 1997 PM_{2.5} NAAQS is based on the federally enforceable control measures identified in New Jersey's April 1, 2009 SIP submittal and listed in this rulemaking's table 3 titled, "Modeled control measures included in the 2009 BOTW Model Run for New Jersey", table 4 titled, "Control Measures Adopted by New Jersey Not Captured in the 2009 BOTW Model Run", and table 7 titled, "New Jersey PM_{2.5} RACT.

D. Contingency Measures

In accordance with section 172(c)(9) of the CAA, the PM_{2.5} Implementation Rule requires that PM_{2.5} attainment plans include contingency measures. Contingency measures are additional measures to be implemented in the event that an area fails to meet RFP or fails to attain a standard by its attainment date. These measures must be fully adopted rules or control measures that can be implemented quickly if the area fails to meet RFP or fails to attain by its attainment date, and should contain trigger mechanisms and an implementation schedule. In addition, they should be measures not already included in the SIP control strategy and should provide for emission reductions equivalent to one year of RFP.

The attainment plan for the Northern and Southern New Jersey PM_{2.5} nonattainment areas included contingency measures, shown in Table 8 below, to be implemented if the areas failed to attain by the required attainment date.

Table 8: New Jersey PM_{2.5} Attainment Contingency Measures

New Jersey Contingency Measures	Targeted Pollutants				Affected Rules
	NO _x	VOC	SO ₂	PM _{2.5}	
Diesel Idling	X			X	NJAC 7:27-14.1, 14.3
Asphalt Production Plants Rule	X				NJAC 7:27-19.9
Onroad Motor Vehicle Control Programs (Fleet Turnover 2010)	X			X	Federal Tier 2 and 2007 Heavy Duty Diesel Standards, NJAC 7:27-29
Nonroad Motor Vehicle Control Programs (Fleet Turnover 2010)	X		X	X	Federal 2004 Nonroad Diesel Rule
Municipal Waste Combustors (Incinerators) NO _x Rule	X				NJAC 7:27-19.12, 19.13
NO _x RACT Rule 2006 (Portion Not Modeled)	X				NJAC 7:27-19

Controls from EGU and Refinery Consent Decrees (Additional Emissions Reductions)			X		Not applicable (i.e., Consent Decree)
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All Federal and State contingency measures identified in the attainment plan have been adopted and implemented. EPA has previously approved the State rules listed in Table 8 into the SIP during previous agency actions⁷.

As noted in section II.C of this proposed rulemaking, EPA has finalized the determination that the NY-NJ-CT PM_{2.5} nonattainment area had attained the 1997 PM_{2.5} NAAQS, based on complete, quality-assured, quality controlled, certified ambient air monitoring data for the 2007-2009 monitoring period. EPA has also finalized the determination that the PA-NJ-DE PM_{2.5} nonattainment area had attained the 1997 PM_{2.5} NAAQS, based on complete, quality-assured, quality controlled, certified ambient air monitoring data for the 2007-2009, and 2008-2010 monitoring periods. Because EPA is determining that the areas are attaining by its applicable attainment date, in accordance with CAA 179(c)(1), no contingency measures for failure to attain by this date need to be implemented, and further EPA action is unnecessary. Furthermore, as set forth in the PM_{2.5} Implementation Rule, areas that attained the NAAQS by the attainment date are considered to have satisfied the requirement to show RFP, and as such do not need to implement contingency measures to make further progress to attainment. Since the NY-NJ-CT PM_{2.5} nonattainment area and the PA-NJ-DE PM_{2.5} nonattainment area have attained by the required attainment date, contingency measures submitted by New Jersey are no longer necessary to meet RFP requirements or attain the annual PM_{2.5} NAAQS by the attainment date,

⁷ Federal Register notices: 72 FR 41626 (July 31, 2007), 73 FR 8200 (February 13, 2008), 74 FR 17781 (April 17, 2009), 75 FR 45483 (August 3, 2010)

and further EPA action is unnecessary. Regardless of this determination, New Jersey has already adopted and implemented the control measures listed in Table 8.

E. Motor Vehicle Emissions Budgets

The CAA requires Federal actions in nonattainment and maintenance areas to “conform to” the goals of SIPs. This means that such actions will not: cause or contribute to violations of a NAAQS, worsen the severity of an existing violation, or delay timely attainment of any NAAQS or any interim milestone. Actions involving Federal Highway Administration (FHWA) or Federal Transit Administration (FTA) funding or approval are subject to the transportation conformity rule (40 CFR part 93, subpart A). Under this rule, metropolitan planning organizations (MPOs) in nonattainment and maintenance areas coordinate with state air quality and transportation agencies, EPA, and FHWA and FTA to demonstrate that their long-range transportation plans (plans) and transportation improvement programs (TIP) conform to applicable SIPs. This is typically determined by showing that estimated emissions from existing and planned highway and transit systems are less than or equal to the motor vehicle emissions budgets (budgets) contained in a SIP.

In its submittal, New Jersey established three sets of budgets for the two MPOs within the two PM_{2.5} nonattainment areas in New Jersey. The Delaware Valley Regional Planning Commission (DVRPC) is a bi-state MPO that covers four counties in New Jersey and five in Pennsylvania. Of its four New Jersey counties, three counties (Burlington, Camden, and Gloucester) are part of the Southern New Jersey PM_{2.5} nonattainment area.

Because conformity is determined on a nonattainment area basis within a state, New Jersey established budgets for direct PM_{2.5} and NO_x (a PM_{2.5} precursor) for these three combined counties. DVRPC would use these budgets to satisfy conformity requirements within the Southern New Jersey PM_{2.5} nonattainment area.

New Jersey has also established separate “sub-area budgets” for the remaining DVRPC county (Mercer) and the nine counties covered by the North Jersey Transportation Planning Authority (NJTPA) that lie within the Northern New Jersey PM_{2.5} nonattainment area. Though the MPOs belong to the same nonattainment area within the state, these sub-area budgets allow each MPO to work independently to demonstrate conformity by meeting its own PM_{2.5} and NO_x budgets. Each MPO must still verify, however, that the other MPO currently has a conforming plan and TIP prior to making a new plan/TIP conformity determination.

New Jersey has determined that other potential PM_{2.5} precursors (VOC, SO₂, and NH₃) are not significant and has not set budgets for them. In addition, New Jersey analyzed monitoring data and determined that re-entrained road dust and construction dust do not significantly contribute to PM_{2.5} concentrations, and therefore has not set budgets for either road or construction dust.

Table 9 lists New Jersey's submitted budgets.

Table 9. 2009 Motor Vehicle Emissions Budgets Submitted by New Jersey [Tons per year]

Nonattainment Area	MPO	PM_{2.5}	NO_x
Northern New Jersey	North Jersey Transportation Planning Authority	842	44,321
Northern New Jersey	Delaware Valley Regional Planning Commission (Mercer County only)	105	5,323

Southern New Jersey	Delaware Valley Regional Planning Commission (Burlington, Camden, and Gloucester Counties)	341	17,319
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For motor vehicle emissions budgets to be approvable, they must meet, at a minimum, EPA's adequacy criteria (40 CFR 93.118(e)(4)). EPA made an adequacy determination on New Jersey's 2009 budgets on June 14, 2010 (75 FR 33614). In our Notice of Adequacy we found that the budgets complied with the adequacy criteria listed at 40 CFR 93.118(e)(4). When EPA determines that budgets are adequate for transportation conformity, we note that an adequacy finding does not imply that budgets will ultimately be approved. Consistent with our adequacy review of New Jersey's submittal and our subsequent thorough review of the entire SIP submission, EPA is proposing to approve New Jersey's 2009 budgets.

The budgets that New Jersey submitted were calculated using the MOBILE6.2 motor vehicle emissions model. EPA is proposing to approve the inventory and the conformity budgets calculated using this model because this model was the most current model available at the time New Jersey was performing its analysis. Separate from today's proposal, EPA has issued an updated motor vehicle emissions model known as the Motor Vehicle Emission Simulator or MOVES. In its announcement of this model, EPA established a grace period for continued use of MOBILE6.2 in transportation conformity determinations for transportation plans and TIPs, after which states and metropolitan planning organizations (other than California) must use MOVES for transportation plan and TIP conformity determinations. (See 75 FR 9411 (March 2, 2010); 77 FR 11394 (Feb. 27, 2012)).

Additional information on the use of MOVES in SIPs and conformity determinations can be found in the December 2009 *Policy Guidance on the Use of MOVES2010 for State Implementation Plan Development, Transportation Conformity, and Other Purposes*. This guidance document is available at: <http://www.epa.gov/otaq/models/moves/420b09046.pdf>.

During the conformity grace period, the State and MPO(s) should use the interagency consultation process to examine how MOVES2010a will impact their future transportation plan and TIP conformity determinations, including regional emissions analyses. For example, an increase in emission estimates due to the use of MOVES2010a may affect an area's ability to demonstrate conformity for its transportation plan and/or TIP. Therefore, state and local planners should carefully consider whether the SIP and motor vehicle emissions budget(s) should be revised with MOVES2010a or if transportation plans and TIPs should be revised before the end of the conformity grace period, since doing so may be necessary to ensure conformity determinations in the future.

We would expect that states and metropolitan planning organizations would work closely with EPA and the local Federal Highway Administration and Federal Transit Administration offices to determine an appropriate course of action to address this type of situation if it is expected to occur. If New Jersey chooses to revise its PM_{2.5} attainment plan, it should consult Question 7 of the December 2009 *Policy Guidance on the Use of MOVES2010 for State Implementation Plan Development, Transportation Conformity, and Other Purposes* for information on requirements related to such revisions.

V. What is EPA's Proposed Action?

EPA is proposing to approve several elements of New Jersey's attainment plan including New Jersey's attainment demonstration and motor-vehicle emissions budgets used for transportation conformity purposes, as well as the RACT/RACM analysis, and base-year and projection-year modeling emission inventories.

EPA has determined that the SIP meets the applicable requirements of the CAA, as described in the PM_{2.5} Implementation Rule. Specifically, EPA has determined that New Jersey's SIP includes an attainment demonstration and adopted state regulations and programs needed to support a determination that the Northern New Jersey PM_{2.5} nonattainment area and the Southern New Jersey PM_{2.5} nonattainment area have attained the NAAQS by the April 2010 deadline.

VI. Statutory and Executive Order Reviews

Under the Clean Air Act, the Administrator is required to approve a SIP submission that complies with the provisions of the Act and applicable Federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA's role is to approve state choices, provided that they meet the criteria of the Clean Air Act. Accordingly, this action merely proposes to approve state law as meeting Federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this proposed action:

- is not a "significant regulatory action" subject to review by the Office of Management and Budget under Executive Order 12866 (58 FR 51735, October 4, 1993);
- does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);

- is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);
- does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Public Law 104-4);
- does not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- is not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the Clean Air Act; and
- does not provide EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, this proposed rule does not have tribal implications as specified by Executive Order 13175 (65 FR 67249, November 9, 2000), because the SIP is not approved to apply in Indian country located in the state, and EPA notes that it will not impose substantial direct costs on tribal governments or preempt tribal law.

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Nitrogen dioxide, Particulate matter, Reporting and recordkeeping requirements, Sulfur oxides, Volatile organic compounds.

AUTHORITY: 42 U.S.C. 7401 et seq.

Dated: December 6, 2012.

Judith A. Enck,
Regional Administrator, Region II.

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